

THE SCIENTIFIC AMERICAN.

THE ADVOCATE OF INDUSTRY AND ENTERPRISE, AND JOURNAL OF MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME I.]

THE SCIENTIFIC AMERICAN,
The Advocate of Industry and Enterprise, and
Journal of Mechanical and other Sci-
entific Improvements,
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RUFUS PORTER, Editor.

The contents of the *Scientific American* are probably more varied and interesting, than those of any other weekly newspaper in the United States, and certainly more useful. It contains as much interesting Intelligence as six ordinary daily papers, while for real benefit it is unequalled by any thing yet published. Each number regularly contains from THREE to SIX ORIGINAL ENGRAVINGS, illustrative of NEW INVENTIONS, American and Foreign.—SCIENTIFIC PRINCIPLES and CURIOSITIES.—Notices of the progress of Mechanical and other Scientific Improvements.—Scientific Essays on the principles of the Sciences of Mechanics, Chemistry, and Architecture.—Catalogues of American Patents.—INSTRUCTION in various ARTS and TRADES, with engravings.—Curious Philosophical Experiments.—the latest RAIL ROAD INTELLIGENCE in Europe and America.

The publishers of the *Scientific American*, it will at once be observed, are at a very heavy expense in furnishing so many new engravings, and also in the means employed to obtain the latest and best information on all Scientific subjects. Aside from the cost of the illustrations each week, and the expense of a correspondent at Washington, they have lately despatched an agent and correspondent to Europe, whose duty it is to furnish them by every steamer, with the latest and most interesting European Intelligence on Scientific subjects. His time will be spent principally in travelling through England, France, and Germany, visiting the Royal Polytechnic Institute at London, the Academy of Sciences at Paris, and all the various Scientific Institutions and most noted places in Europe. To defray all these expenses, and to furnish a paper fully equal to its title, requires a very large subscription list.

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The *Scientific American* may be had at all the principal periodical establishments in the United States. The most extensive arrangements have been made for its circulation. For list of agents, see last page.

The Wind in a Frolic.

The wind one morning sprung up from sleep, saying, "Now for a frolic! now for a leap! Now for a mad-cap galloping chase!" I'll make a composition in every place! It swept, with a bustle right through a great town, Creaking the signs, and scattering down Shutters; and whisking, with merciless squalls, Old women's bonnets, and gingerbread stalls; There never was heard a much lustier shout, As the apples and oranges tumbled about; And the urchins, that stood with their thievish eyes, Forever on watch ran off each with a prize. Then away to the field, it went blustering and humbling; And the cattle all wonder'd what ever was coming: It pluck'd by their tails, the grave matronly cows, And tossed the colt's manes all about. Till, offended at such a familiar salut, They all turn'd their backs, and stood silent. So on it went, capering and playing its pranks, Whistling with reeds on the broad river's banks, Puffing the birds, as they sat on their spray, Or the traveller groan, on the king's highway. It was not too nice to hustle the bags Of the beggar, and flutter his dirty rags; 'Twas so bold, that it feared not to play its joke With the doctor's wig, or the gentleman's cloak. Through the forest it roar'd, and cried gaily, "Now, You sturdy old oaks, I'll make you bow!" And it made them bow without more ado, And crack'd their great branches through and through.

Then it rush'd like a monster on cottage and farm; Striking their dwellers with sudden alarm; And they run out like bees, in a midsummer swarm! There were dames with their kerchiefs tied over their heads, if their poultry were free from mishaps; [caps, The turkeys they gobbed, the geese screamed aloud, And the hens crept to roost in a terrified crowd; There was rearing of ladders, and logs laying on, Where the thatch from the roof threatened soon to be gone.

But the wind had press'd on, and had met in a lane, With a school-boy, who pant'd and struggled in vain; For it toss'd him and twirled him, then pass'd and he stood With his hat in a pool, and shoe in the mud.

The booksellers are advertising a book of country *leg-ends*. It must have some curious features about it.

NEW-YORK, THURSDAY, SEPTEMBER 3, 1846.

[NUMBER 50.

A LIST OF PATENTS ISSUED FROM THE 20 MAY TO 16TH MAY, 1846.

(Continued from No. 49.)

To John Street, of Philadelphia, for improvement in lamps: patented 2d May, 1846.

To Eliehu S. Snyder, of Charlestown, Va., for improvement in bolting flour: patented 2d May.

To Allen Judd, of Cabotsville, Mass., for improvement in wind-mills: patented 2d May.

To Luther Gifford, of Syracuse, N. Y., for improvement in weather strips, for doors, &c., patented 2d May.

To John M. May, of Philadelphia, for improvement in plows: patented 2d May.

To Joel H. Morse, of Lowell, Mass., for improvement in machinery for dressing tortoise-shell, &c., patented 2d May.

To William S. McLean, of Alleghany, Pa., for improvement in window-sash fasteners: patented 2d May.

To Daniel Ashbury, of Colburn's Post-office, N. C., for improvement in machinery for washing gold and silver ores: patented 2d May.

To Andrew Vetter, of Philadelphia, for improvement in overshoes: patented 2d May.

To Joseph Hayward, of Cleveland, Ohio, for improvement in compositions for blacking leather: patented 9th May.

To J. Shaler, of New York City, for improvement in tuning metallic reeds: patented 9th May.

To Moses D. Wells, of Morgantown, Va., for improvement in shovel ploughs: patented 9th May.

To William R. Kelsey, of Big Steam Point, N. Y., for improvement in bee-hives: patented 9th May.

To Daniel Arndt, of West Middletown, Pa., for improvement in bee-hives: patented 9th May.

To Joseph Echols, of Columbus, Ga., for improvement in propelling vessels: patented 9th May.

To Robert Frederick, and Granville A. Trump, of Baltimore, Md., for improvement in Refrigerators for corsets: patented 9th May.

To Walter W. Hart, of Philadelphia, for improvement in the manufacture of spoons: patented 9th May.

To Hiram Todd, of Columbus, Ohio, for improvement in Dentists' turn keys: patented 9th May.

To Abisha Clark, of Dos Run Post-office, Pa., for improvement in meat-cutters: patented 9th May.

To John Haslet, and Cornelius Devitt, of Irville, Ohio, for improvement in bedstead fastenings: patented 9th May.

To Samuel Wilson, of Danville, New York, for improvement in machines for the manufacture of harness bridles, &c.: patented 9th May.

To John H. Lester, of New London, Conn., for improvement in machinery for dressing staves: patented 9th May.

To Philo B. Tyler, of New Orleans, for improved Safety Switch for railroads: patented 9th May.

To J. W. Howlett, and F. M. Walker, of Greenbrough, N. C., for improvement in smut machines: patented 9th May.

To J. K. Millard, of Town Hill, Pa., for improvement in regulating and directing upon water-wheels: patented 9th May.

To Benjamin A. Holbrook, of Providence, R. I., for improvement in riveting weaver's pickers: patented 9th May.

To Andrew Ellicott, and John M. Crone, of Baltimore, Md., for improvement in Reverberatory Furnaces: patented 16th May.

To H. H. Stimpson, of Boston, for improvement in backs of cooking ranges: patented 16th May.

To Christopher Hand, of Port Elizabeth, N. J., for improvement in water-wheels: patented 16th May.

To John L. Sullivan, of New York city, for improvement in spinal supporters: patented 16th May.

To Alfred Stillman, of New York city, for improvement in sugar pans: patented 16th May.

To John Lee, of Wellsville, Ohio, for improvement in cooking stoves: patented 16th May.

To Thomas Culbertson, of Cincinnati, Ohio, for improvement in brick presses: patented 16th May.

To Laban Morse, and Whitman T. Lewis, of Athol, Mass., for improvement in stoves for burning fine fuel: patented 16th May.

To John R. Rennington, of Lowndes Co., Ala., for improvement in the construction of Andirons: patented 16th May.

To Henry Staub, of Martinsburg, Va., for improvement in smut machines: patented 16th May.

To Albert W. Gray, of Middletown, Vt., for improvement in wrought-nail machinery: patented 16th May.

To John F. Winslow, of Troy, New York, for improvement in the mode of manufacturing malleable iron directly from the ores: patented 16th May.

To Squire M. Fales, of Baltimore, Md., for improvement in feeding furnaces: patented 16th May.

To James Wilson, of New York city, for improvement in cooking stoves: patented 16th May.

To William P. McConnell, of Washington, D. C., for improvement in propellers in vessels: patented 16th May.

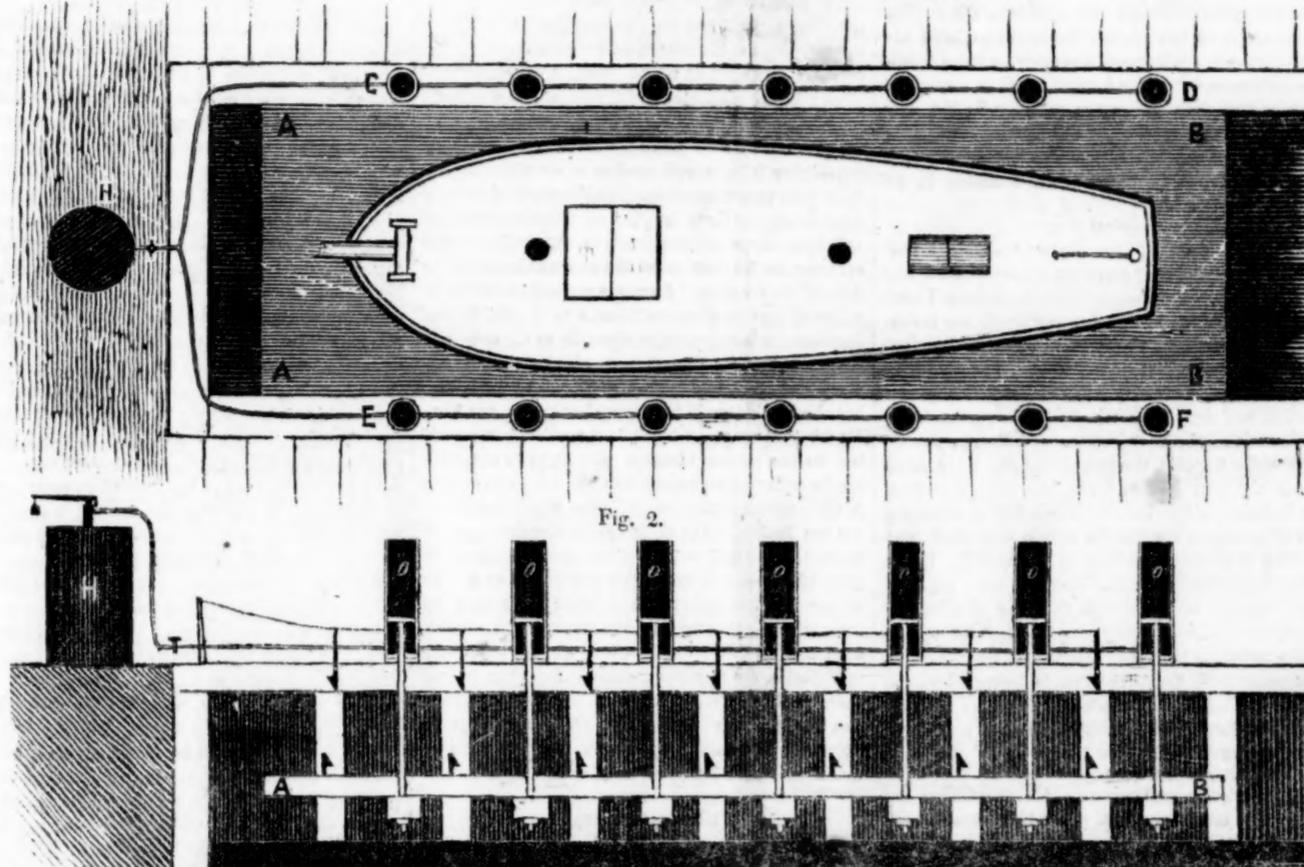
To Matthias W. Baldwin, of Philadelphia, for improvement in locomotive carriages: patented 16th May.

EFFECT OF SULPHATE OF IRON ON VEGETATION.

The *Journal d'Horticulture Pratique*, asserts that a tree, of which the wood is tender, poor and sickly, to which a strong solution of sulphate of iron (copperas) should be applied, revives and puts forth an extraordinary vegetation. This solution of sulphate, of which M. Paquet has made many successful applications this summer, should be given in and with the water, when the plants or trees are watered, so that the roots may more readily absorb the chemical agencies which reanimate the vital forces of the tree.

SPENCE'S ELEVATOR, OR STEAM DOCK.

Fig. 1.



EXPLANATION.—Fig. 1 is a vertical view or ground plan of the apparatus; and fig 2 is a sectional side view, or longitudinal elevation. A strong platform, A A B B, fig. 1, or A B, fig. 2, is calculated to be submerged deep enough to allow a vessel to float over and rest upon the platform, as represented in fig. 1. Two rows of iron cylinders, C D E F, are arranged in a vertical position on each side of the dock: and each cylinder is a piston, from which a piston rod descends through a cylinder head and stuffing-box at the bottom of the cylinder to the platform, or to the ends of the cross-timbers on which the platform rests. It will be observed that each row of cylinders stand upon a stout cross-timber which rests upon a row of posts at each side of the dock. The cylinders of each row are connected to each other by a steam-pipe below the pistons; and the two steampipes become united in one at the head of the dock, and this one is connected to the boiler H. It will be seen that by the admission of steam into the cylinders, the piston, are all uniformly forced upward, and the platform is thereby elevated; and when it has attained a proper height, a row of hooks or catches, arranged on each side of the platform, take to a corresponding row of reversed hook-levers, which are secured by pivots to the cap above, and the platform is thereby held firmly without the continuation of the steam pressure: but when it is required to return the platform to the bottom, steam is applied to elevate the pistons, and the hooks are relieved from the catches by means of a line or wire, which is connected to the head of each hook-lever, and being drawn forward the hook at the bottom is carried beyond the catch; and by letting off the steam by a valve or steam-cock, the platform is allowed to settle gently into the water. The representations in this engraving are intended to illustrate the general principle rather than the proportions of the several parts. With regard to the lifting power of this plan it may be remarked that if twenty cylinders are arranged in each row, and each piston presents 100 square inches of surface, and the density of the steam is 100 lb to the square inch, the entire lifting force on the whole would be 400,000 lbs. This plan was invented some time since by Mr. Wm. J. Spence of this city, though he has not hitherto found it convenient to introduce it to use. He intends to apply for a patent as soon as the utility of the plan has been tested. For further particulars apply at this office.

A CURIOUS SHAWL.—A scarf has been submitted to the editor of the *London Times*. Four colors are so constructed as to fold into twenty different effects; either color can be worn alone, and two together, three, or all four, according to the caprices of the wearer. Mr. Robert Kerr, of Paisley, is the enterprising manufacturer who has accomplished the weaving in one piece of this extraordinary shawl, which is announced to be a scientific production of far greater merit than any thing which has appeared in the French exposition of manufacture.

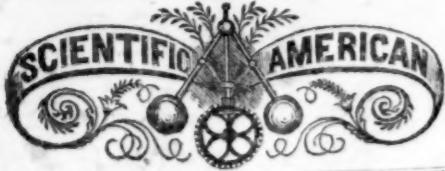
READING NEWSPAPERS.—A western paper says that young ladies who are accustomed to reading newspapers, are always observed to possess winning ways, most amiable dispositions, and invariably make good wives: while on the other hand, those who read nothing, or what is far worse, novels, are generally unfit for either society, or domestic cares, and their company is but little sought by either sex, farther than the rules of common civility actually require.

ECONOMIZING.—An Irishman once enquired of the toll-gatherer of one of the London bridges, how much a man was allowed to carry over, and was told in reply, to carry as much and whatever he chose: whereupon a company of Irishmen immediately appeared, each with a companion, or his wife and children on his back, and paying a single toll marched over, much to the chagrin of the collector, whose exposition of the law had proved so unprofitable.—*Mrs. Loudon.*

A NEW DIAMOND MINE.—The rich stores of Brazil seem not yet to have been exhausted, and new discoveries are being made, developing the richness of her diamond mines. One of these has been recently opened, exceedingly valuable. A French paper published at Rio de Janeiro gives the following account of it: "This mine, which has already produced 400,000 carats of diamonds, was discovered in October, 1844, by a negro shepherd. The man, struck with the resemblance of the ground to that of the mine of Tijucu, where he had worked, began to dig, and found some diamonds, which he carried to Bahia for sale. He was arrested and thrown into prison on suspicion of having stolen them, but made his escape. He was pursued by some Indians who were sent after him, and found digging again for diamonds, and thus the existence of the mine became known to the Government. It is said that the produce already realized amounts to eighteen millions of francs."

DOGS IN THE BATTLES.—Very many of the officers attached to the army of occupation, own remarkably fine dogs, principally of the pointer and setter species. After the battle of the 8th began and the firing became very intense, two dogs, remarkable for their intelligence, appeared to listen to the confusion for a while with great astonishment, and then evidently holding a consultation, they started off at great speed for Point Isabel, being the first arrivals at that place from the battle field. There was a brave dog, however, to redeem the character of the species. He posted himself in front of one of the batteries, and watching with the intense gravity the appearance of the discharged ball, would start after it at full speed, expressing great surprise that it was out of his sight so suddenly. He would then wheel round, and watch the appearance of another ball, and then again commence the chase. He thus employed himself through the action, and escaped unharmed.

FLORIDA PINE APPLES.—The *Charleston Evening News* of the 29th ult., says:—We have been presented with specimens of this fruit raised at St. Lucia, East Florida. They have been produced with scarcely any trouble, and are the product of a second crop, and the only fruit of the kind which has been raised in the United States. Our informant states that all the tropical fruits are easy of culture in the Eastern portion of Florida.



NEW-YORK, THURSDAY, SEPTEMBER 3.

Post Masters—Who receive this paper, will confer a special favor by mentioning the subject occasionally to scientific mechanics. The aid, also, and influence of all our kind patrons, in extending the notice and circulation of this paper, is most respectfully solicited.

METEOROLOGICAL AFFAIRS—We have received no intelligence on the subject of artificial production of rain, in answer to a correspondent's letter of enquiry, published two weeks since. Our friend Starr, of the "Farmer and Mechanic," has made a rather violent effort at wit on the subject, and closes with an interrogation concerning aerial navigation. By the way, we would recommend to our neighbor to confine his attention to "things of earth," and not think of aerial flights:—we have *Stars* enough in the heavens already.

EXPLOSIVE COTTON—*Gunpowder superseded.*—An article of the humbuggous class, has commenced its newspaper rounds, purporting to have been copied from a Swiss paper. The statement is that a quantity of cotton has been presented to the Basle Society of Natural History, by Professor Schonbien, so prepared as to be more explosive and more powerful in its effects than gunpowder. A small quantity, equal to the sixteenth of an ounce, being placed in a gun-barrel, a ball was thereby thrown with such force as to perforate two planks at the distance of 150 feet. In another experiment a "drachm of cotton sent a ball to a distance of 600 feet, where it penetrated a deal plank to the depth of three inches." A thread spun from this wonderful cotton, would probably split the largest rocks by being merely passed round or over it, and struck with a small hammer.

SILICON, OR MALLEABLE GLASS—Nearly a year ago we noticed an article on this subject, representing that a tough, transparent, malleable, and unbreakable glass had been discovered, produced and exhibited in Paris. We intimated at the time, that the statement was probably a hoax; but it has been ruining the rounds ever since; even within a week we have seen it in several of our exchanges with as honest a countenance as it presented at the first; although the "malleable glass" has never been seen since the author of the story awoke from his silicon dream. It would be well for American editors to be economical of their credence with regard to the extravagant accounts of new and wonderful discoveries, reported in foreign journals.

A MATCH FOR SATAN—It is related that a lady in Hungary, who was annually accustomed to visit Pesta on the *Fete de Dieu*, bringing with her an only daughter, a lovely child of seven or eight years, missed her in the crowd, and after a fruitless search was compelled to return without her. Another year had elapsed when, on another visit to the place she discovered the child blind and in rags, bitterly crying and holding out a wooden bowl for alms. It appeared she was in charge of an old woman, or hag, who sat behind her, and who had decoyed the child from her mother and put out her eyes for the purpose of employing her the more successfully at begging. The old woman was arrested, but the broken-hearted mother was inconsolable.

Mr. S. A. Warner, of England, professes to have invented an apparatus by which he "can easily destroy any fleet" which his country "can send out to sea: render all the fortifications recently erected useless, and all harbors and rivers around the British island impassable." He has applied to the government for a specified sum of money therefor, and threatens that in case of refusal, he must make the invention public, "whatever may be the consequences." Perhaps he will get it.

EARTHQUAKE IN NEW ENGLAND—A rather severe shock of an earthquake was experienced on the morning of the 25th inst., at Boston, Worcester, and Springfield, Mass. It was not accompanied with much noise, but the houses were shaken so as to disturb the furniture, and ring the bells. Its continuance was three or four seconds.

A GRAND ENTERPRISE IN CONNECTICUT—Mr. Anderson, a competent engineer, has commenced a survey of the route for a proposed canal from Windsor Locks to Hartford. It is thought that a water-power, superior to that of Lowell, may be secured by carrying out this project, and an immense manufacturing business be established. If the work is carried through it will greatly add to the activity of the ever busy and lively city of Hartford.

N. Y. STATE FAIR—Extensive preparations are being made at Auburn, for the great State Fair at that place this month. A site has been chosen on Capitol hill, overlooking the village and a large extent of country.—Floral hall is to be 150 by 50 feet; Dairy hall 70 by 28; that for farming implements 100 by 55, and one of equal size for manufactures.

NAVIGATION OF THE TIBER—A society of rich capitalists has presented to the Roman Government a proposal, the object of which is to make the Tiber navigable, from Rome to the sea, for vessels of the largest size. Should the attempt prove successful, a steamboat from Marseilles would be enabled to land its passengers directly in front of St. Peter's Church in Rome.

A NEW TITLE—The honorary degree of *L. L. D.*, having been recently conferred on Gov. Toucey, of Connecticut, the New Haven Fountain understands these initials to signify "Learned Liquor Dealer." The Governor had better quit the rum business.

New Inventions.

IMPROVEMENT IN CLOCKS—Thomas A. Davis has applied for a patent for an improvement, some of the peculiarities of which may be understood by the form of his claim, as follows:—What I claim as new and original, and desired to be secured by letters patent, is applying to the hour socket of a clock, a register for the purpose of counting off, as the hours go round, to stops upon the strike wheel, or to stops arranged upon the strike wheel shaft. I also claim the application of two arms from a central shaft, the end of one of which strikes upon a register as above described, guiding the end of the other to stops upon the strike wheel, or to stops arranged upon the strike wheel shaft. I also claim the new mode of stopping the striking parts of a clock, by means of pins or stops, arranged upon the strike-wheel, or upon stops arranged upon the strike wheel shaft. I also claim the combination in a clock, of the lifting power—the stops arranged as above described. The two arms forming a centre for the objects above described—and the register made and applied as above described—all together or any two together." The application was entered 12th August, 1846.

IMPROVED HOT-AIR FURNACES—Joseph C. Morris, has applied for a patent (August 12,) for an improvement in which he claims "the manner of arranging and combining the flues, or air-heating pipes; namely, the ends of the pipes being connected with an end pipe or conductor, communicating with the space between the double walls, so that the air shall be heated, and the heat equalized before it enters the furnace chamber, whether such conductors be vertical or horizontal, or in any other position retaining the same purpose." He also claims "arranging the flues and radiators, with respect to the fire chamber of the furnace, so that the air shall impinge upon the fire chamber, in the manner described."

TRAYER'S SELF-ACTING BRAKE—Another self-acting contrivance for stopping trains of cars, has been entered at the Patent Office by Elwin Thayer. We have not seen a description of the invention, but judge from the features of the claim, that it must be somewhat complicated. The following is the inventor's claim:—What I claim as my invention, and desire to secure by letters patent, is the combination of the cross-bar, shackled to the elbows of the toggles, the swivel, the curved inclined planes, the ring with its lever, and the rod projecting in front of the car, the whole being arranged and operating in the manner herein described, and forming a self-acting braking apparatus. I also claim the forked lever, the counter-lever, and the stud, together with the rods carrying the inclined planes or wedge-shaped pieces, also the spring acting upon the ring, and serving to keep the clutch teeth engaged; the several parts being combined and operating in the manner and for the purpose herein set forth and described, forming a disengaging apparatus." August 12th.

IMPROVEMENT IN BRIDGES—Horace Childs has entered an improvement in which he claims the employment of additional nuts upon the suspension rods, under the upper, and above the lower stringers, whereby the suspension rods answer the additional purpose of counter braces. He also claims the employment of screw bolts combined with the thrust braces, and projecting beyond them sufficiently to pass through the stringers where they are united with the posts: the stringers, posts, and braces, being thereby bound together.

Frederick Harbush has also entered an improvement in bridges, in which he claims "a combination of devices, by which the diagonal braces operate either by thrust or tension at pleasure, while the vertical rods at the same time operate either by tension or thrust."

APPARATUS FOR FREEZING OR COOLING WATER—An application for a patent for the invention was entered August 18th, by John Dutton. The water to be cooled is contained within, or made to pass through a metallic pipe, in the centre of which is another pipe, supplied with a current of atmospheric air liberated from under a heavy pressure or condensation. The air must have remained under compression long enough to allow its ordinary calorific to escape therefrom; after which, by being permitted to expand to its ordinary volume, it will be intensely cold, and will readily absorb the caloric from the contiguous water. We are not informed whether the inventor has any peculiar method of compressing the air; but the invention is based on correct theory and will probably succeed.

TRAVELLING TRUNK AND LIFE-PRESERVER COMBINED—This invention consists of two water-tight trunks or apartments, connected by hinges and straps of such a size and shape that they will fit to the chest of a man and leave fair play for his arms, and that may be secured to him by straps whenever a buoyant life-preserver may be required; the water-tight apartments serving for receptacles of the money and valuable articles of a traveller's wardrobe, and the central sections formed by the union of the water-tight apartments by straps and hinges, with a temporary bottom and cover, serving as a receptacle of a carpet-bag, over-coat, &c. Entered at the Patent Office August 18th, by Edward G. Fitch.

NEW NAUTICAL INSTRUMENT—Report says that a gentleman of Delaware has invented an instrument which accurately determines the longitude of any place on sea or land, as certainly as the compass determines the cardinal points at all times.—*Ech.*

We have on hand a plan of an instrument for the same purpose, invented by a gentleman in this city; but as neither of them have probably been proved, we are not authorized to place much confidence in the full success thereof.

It appears from an official document just presented to Parliament, that there were last year 454 collisions of vessels at sea, and in the present year, to the 12th of May last the number was 150.

Science of Mechanics.



THE UNLIMITED FORCE, BUT LIMITED POWER OF THE SIMPLE LEVER—We are led to advert to this subject again, in consequence of having seen several people endeavoring to gain an advantage of power, by some peculiar modification of the lever, or the combination of several different modifications of the same principle. This pursuit may properly be compared to that of endeavoring to produce a numerical sum, by adding, arranging, and combining several quantities of cyphers. The fact is, and should be fixed in the mind of every mechanic, that *no power* can possibly be gained by any modification of the lever; and consequently no advantage can be gained by any combination thereof; but with regard to *force* or pressure that may be produced by a lever, it is unlimited, even when applied in the most simple form; and no combination can extend the force beyond infinity. The most perfect and simple lever, is a straight bar, resting on a fulcrum, and with one end applied to the body to be raised, moved, or effected by it, while the operating force is applied to the other end. In this, as in all other cases of what are termed the mechanical powers, and in all machines in which force and motion are employed, there are to be considered three essential points, which may be termed the "receiver," the "supporter," and the "communicator." These three points are illustrated in the cut; A, being the receiver, or point at which force is originally applied; B, the supporter or fulcrum, which is a fixed foundation to the moving part; and C, the communicator, from which point the force of the moving machinery is communicated to some other object. Now be it remembered that in all levers and moving machinery, the force applied by the communicator will be in the same proportion to that applied to the receiver, as the motion of the communicator is to that of the receiver. Suppose the supporter he so adjusted that the distance from A to B shall be one hundred inches; and that from B, to C, only one tenth of an inch: then if one pound weight be applied at A, the force applied at C will be 1000 lbs.; but the block C, will be elevated only the one-hundredth part of an inch, while the point A descends ten inches. If an increase of motion is required, let the order be reversed; let C be the receiver, and A the communicator: in this case A will be elevated ten inches, while C descends one-hundredth of an inch, yet it will require a force something more than 1000 lbs. at C to elevate one pound at A. In all cases of machinery, the relative force may be ascertained by taking into consideration the relative motion, and vice versa: wherefore, as both force and motion are required to constitute power, (to say nothing of time, without which no definite power can be established,) it must be plain to all, that no power can be gained by various combinations or modifications of the lever, or of machinery.

The Sockdolager.



A NEWLY INVENTED AND PATENTED FISH-HOOK—This hook is a perfect fish killer in itself. The old saying that "a nibble is as good as a bite" is truly exemplified in this invention. No sooner does small fry or big fish attempt a nibble at the bait, than down comes a trip-hammer hook, by the power of spring and lever, giving the unlucky nibbler a "sockdolager" between the eyes, and securing it on the barb as firmly as it had essayed to swallow the whole invention, instead of taking a fastidious nibble to make sure of "fresh bait." We recommend all the disciples of Izaak Walton to provide themselves with a supply of this article, for it is truly the greatest invention of the age, and is destined to make the inventors, Messrs. Engelbrecht & Skiff, as celebrated in the piscatory world, as good old Izaak Walton himself.

GREAT DISMAL SWAMP—The extensive elevated marsh or swamp, in North Carolina, is spoken of by an English traveller as one of the wonders of America. He remarks that "the swamp is fifty miles in length and twenty-five in breadth, is something, in comparison, like a peat-bog, and is forming gradually a rich coal deposit, but its peculiarity consists in this, that the surface of the morass, instead of being lower than the level of the surrounding country, is higher. Mr. Lyell calls this an anomaly, and is apparently at a loss to account for it. What is perhaps, still more remarkable, is, that the centre of the swamp itself is much higher than the surrounding parts. The formation, which is a good peat, is moreover found in a climate in which nothing of this kind has before been discovered."

SOUNDS IN COLD WEATHER—We are told in Captain Parry's Journal of a voyage for the discovery of a North-west Passage, that the distance at which sounds were heard in the open air, during the continuance of intense cold, was so great as constantly to afford matter of surprise to him, notwithstanding the frequency with which he had occasion to remark it. People might be heard distinctly conversing in a common tone of voice, at the distance of a mile!

From the Army, Mexico & California.

The steamer McKim arrived at New Orleans on the 23d ult., with stores from Point Isabel to the 17th, and from Camargo to the 18th. China, 60 miles above Camargo, was taken by McCulloch and his 75 Rangers, on the 5th of August. Seguin, with 100 mounted Mexicans, took flight from the town, which contains 700 inhabitants. There were 300 regulars at Camargo, on the 14th, ready to start for Monterey.

The volunteers were pouring in. General Taylor arrived on the 9th, with his staff. A grand review of the troops took place, and it is said Taylor expressed himself in terms of admiration of their discipline. Duncan's battery and McCulloch with a portion of his men left Camargo on the 12th, in the direction of Monterey.

The steamer Arab arrived off Vera Cruz on the 15th Aug., with Santa Anna on board. He immediately placed himself at the head of the movement in that department. Before Santa Anna left Havana, he took letters from General Campbell to Commodore Conner, and avowed himself, in reply to some enquiries as to his intentions, as follows:—"If the people of my country are for war, then I am with them, but I would prefer peace."

News had been received in Mexico that Monterey and California had been taken by one of the vessels of the United States squadron. Another account says that "all California has yielded to the Americans."

Expensive Ignorance.

It would not be difficult to find a thousand instances in which people lose three-fourths of their labor, and sometimes three-fourths of their stock or materials, for want of knowledge of the most judicious method of applying them; yet the only answer that can be obtained from such people, by one who would introduce to them labor-saving facilities, is that they like the old way best, and have no opinion of new invention. In one section, even of the enlightened state of Massachusetts, the farmers throw their sheaves of grain upon the ground, and make their cattle walk over it, to detach the grain from the straw, instead of threshing. A threshing machine is not known among them; although it is a fact that one horse will thresh and winnow more grain in a day with a good machine, than ten horses can tread out, leaving the cleansing to be done by the hand-shovel at a future day. In many places, people persist in employing eight or ten men to propel a loaded boat up a rapid river, although there is abundance of power in the current to propel the boat with much greater velocity, with the attendance of one man: yet these people want no new inventions. A farmer will labor a week at harrowing, sowing, and smoothing a field, which might be better done in one day with the new "Field Engine." Another will expend two hours' labor per day, for six months in drawing water from a deep well for watering cattle, when by means of a Wind Power Fountain, which would cost him but fifty dollars, his cattle would be better supplied, and all the labor saved. Thousands grind their corn and grain by hand, although a wind mill complete, that will do their grinding, without requiring any attention, can be furnished for fifty dollars. Many more similar cases might be named, but we shall close this article with a slight allusion to the many thousand fire-places, still retained in use in this country, from the fires in which three-fourths of the emanating heat uniformly passes into the chimney, instead of being radiated into the room. Yet the owners want no new inventions.

REFLECTORS—Concave reflectors have been in use many years, but never yet applied to any really useful purpose. They are usually suspended on the wall of a room, and a lamp is so adjusted in front, that its reflected rays are thrown off horizontally, too high for the use of the people in the room, and serve only to illuminate a single spot, which has the apparent effect of darkening the rest of the room. If a plain mirror were substituted for the concave, the light in the room would be considerably increased. Or if a small concave mirror be so adjusted to a lamp that an extra quantity of light may be occasionally thrown on a book or paper, or on the work at which a person may be employed, it will be found exceedingly useful and convenient, and will effect a considerable saving of oil. We have procured a reflector of this description for our own convenience, and deriving a decided advantage therefrom, we can confidently recommend its general introduction and adoption by those who have occasion to read or write by artificial light.

AMERICAN SOLDIERS' FARE—A recent letter from an Indiana volunteer to his father, says:—"We are allowed six lbs. of coffee per day to the hundred men—twelve pounds sugar—one pound pilot bread, or eighteen ounces flour to each man—meat pork more than we can eat—one quart of beans for six men—and vinegar and salt as much as we want—heat about once a week, sometimes more and sometimes less—and molasses occasionally.—We sleep on our blankets, and if the wind blows much, pull one side over us, and when mosquitos are bad cover our heads."

A MAHOGANY SHIP—The Bangor Whig says a Chilian ship is loading lumber in that harbor for Valparaiso. Her timbers are mostly mahogany, her spars of teak wood, and her capstan of satin wood. Ten of her crew are native Chilians, speaking only the Spanish language, and are said to be good sailors.

A BRILLIANT EDUCATION—A candidate for Congress, out West, sums up his education as follows:—"I never went to school but three times in my life, and that was to a night school. Two nights the teacher didn't come, and 'other night I had no candle."

THE NEW CUSTOM HOUSE AT BOSTON—This edifice is now nearly completed. Not a splinter of wood is to be found in the whole edifice, all is Quincy granite and Iron, with marble floors, &c. The roof and dome are formed of solid granite blocks overlapping one another.



Lama Chaney lately ran away from Baltimore with a considerable sum of money, &c., but forgot to cut the telegraph wires, and was consequently headed and arrested. The Yankee rogues understand these things better.

The aqueduct for supplying Boston with water from Long Pond,—recently cognominated with the poetic name of Lake Quickchickchick,—has been formally commenced.

The editor of the Germantown (Ohio) Gazette has surveyed a peach raised in that town, and which measured ten inches and a quarter. He does not expect to hear of a larger one.

A donation of five thousand dollars has been made for the purpose of establishing an observatory at Amherst (Mass.) College. Of course the students will see comets.

An old iron chest, containing \$33,000 in gold was found in a room which had been occupied by an old miser, who lately died at Milville, Ohio. He probably forgot it when he died.

Another splendid steamship, to be called the "Southerner," is nearly finished at the Dry Dock. She is rigged with three masts, and is a thorough-built sea-boat for the southern Trade.

The Albany Evening Journal complains that Mr. Polk vetoed the much-needed River and Harbor Bill, and at the same time appropriated \$60,000 to send a useless regiment to California.

The dairy of Mr. Harrison Bacon, of Barre, Mass., is expected to furnish the markets with about twenty thousand lbs. of excellent cheese during the present season. He has 34 cows of the Durham breed.

A shawl, which cost only three dollars, was lately sent from Philadelphia to Pottsville, by mail, at an expense of six dollars and thirty cents. Whether the postage was paid, report saith not.

It is stated that 5,180,000 gallons of alcoholic liquors have been sent to heathen lands from the port of Boston alone. The Boston people are ever zealous of converting the heathen.

The Nashville Orthopolitan states that there is a church in Louisville, Ky., composed of the colored population, who pay their preacher, and pay him promptly, \$600 per annum.

The Sunday School Advocate, published at 200 Mulberry street, New York, is said to have a regular circulation of eighty-five thousand copies: probably the largest circulation in the United States.

An elephant at Lockport, Ill., being enraged by finding a piece of tobacco in his food, attacked and nearly killed two horses, and demolished a wagon which they were attached.

Trials have been made to naturalize the tea plant in France, and with so much success that it is expected to become an important branch of French commerce.

An artesian well of extraordinary depth is in progress of being sunk at Luxembourg. The depth already attained is said to be upwards (rather downwards) of 2330 feet,—near the boiling point.

Six hundred and twelve steamboats have been built in Pittsburg, Pa., within the last sixteen years. We should like to learn the regular prices of the article per quantity at the factory.



The Dogs and the Beggars.

"Hark! hark! the dogs bark,
The beggars are coming to town:
Some in rags, and some with bags,
And some in velvet gowns."

We have endeavored, but in vain, to ascertain who has the honor of authorship of the sublime and comprehensive poetry which we have quoted above, and which, as we imagine, contains more meaning, signification, and common sense, than has been usually put to its credit. Our limits will not admit of our going into full details of its merits; but we would merely, and in as brief a manner as possible, notice some of the peculiarly valuable treasures of wisdom with which its lines appear to be freighted.

First, then, we will consider its first word, "hark." This word can never be properly used but in the imperative mode. It is a command, not merely to listen,—to attend,—but, requires a temporary suspension of every other attention,—of every other consideration: and we know no word in the English language, which commands so much attention, and produces so much effect, when uttered solitarily and alone, as this simple monosyllable "hark." We would now say to our readers "hark!" let nothing conspire to withdraw your attention, while we bestow a passing notice on the next subject, to which our attention is naturally drawn: namely, "the dogs." And who, or what, are the dogs here spoken of? Dogs, even strictly and literally considered, occupy an immense variety of grades, stations, and qualities, almost all of which may be considered as symbolic of certain definite characters among the more ideal and inconsistent animals, called men. The dogs, as we are by the poet informed, bark! The barking of dogs often proceeds from motives very diverse; sometimes they bark for joy; sometimes for the purpose of giving notice of certain events; more frequently by way of indicating hostility and menace; but still more frequently for the purpose of amusing themselves by their own clamor. But in this latter case the dogs usually have some ostensible occasion, so that when we hear the dogs bark, we are apt to suppose that there is some real occasion for it, as in the case above quoted. And what is this grand occasion which thus sets all the dogs barking? O! the beggars are coming to town. The word beggars is understood to indicate those who, instead of earning an honorable independence by their own industry, are dependent on the labor of others for their support;—a support not always consisting of a mere subsistence;—it is but an inferior class of beggars who require no more than this;—but a support in affluence, honor and authority over the very people who contribute liberally to their support. And they "are coming to town." They are coming forward on the great public stage—they are coming to place themselves before us in a manner that will claim, and even command our charity. We will then enquire who are the beggars, whose approach occasions so much noise and disturbance by setting all the dogs—great dogs, little dogs, pugs, curs, and poodles,—to barking at such a rate? The first class mentioned, are represented to be clothed in rags; and hence we are ready to conclude that they are a poor worthless pack of beings,—too poor to draw from our purses; and too unfortunate to share our sympathies. The next class are more interesting: they, as we are informed, have bags—bags of gold it may be. These are beggars worth noticing: and what ever they beg—whether honor, office, or more gold, they are sure of our sympathies, and we let the world know, that such illustrious beggars as these, shall never beg in vain. But lo! yet another class of beggars, to whom even the last-mentioned, with their golden bags, pay homage. We know who they are by their costumes—rich velvet gowns.—Behold the dignified solemnity of their carriage and demeanor—the grave confidence with which they solicit—nay, even command our charities—the free use of our purses. Ah, these are the most adroit and successful beggars; they evince a practical knowledge of the business—they have reduced begging to a science; and in this business not the least influential instrument by which they succeed, is the hollow globe, or vice versa; and in its revolutions, on its axis it performs a vast number of gyrations, and in each gyration a vast number of curvilinear lines on the cutting surfaces, different from any other mill, whereby the points of contact are continually changing, and the plates preserved from heat, cohesion, or irregular wear. It is driven by a bevel-wheel and pinion, and from the horizontal position of the driving shaft it can be propelled with great ease by hand, or with power also if required. One of these mills is now being exhibited in operation at No. 121 Fulton street, where the public are respectfully invited to call and examine its properties, and judge for themselves. The price of a mill of the kind here represented is only \$20!

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MARRIED AND ROBBED.—A distinguished widow lady of Virginia came to Baltimore last week, in company with a loving young husband, to whom she had recently united herself; but after a few days' sojourn the graceless scamp left for parts unknown, taking with him some \$400 in money, a note of hand for \$500 more, and all the valuables the lady possessed. The Baltimore papers are greatly at fault in neglecting to give the name of the fellow, that he might be punished throughout the country.

WOMEN WANTED WEST.—The Wisconsin Herald of a late date says: "There is certainly a great scarcity of women in the lead mines. Any industrious girl here can earn \$100 per annum, besides her board, either as a domestic assistant, or at sewing. It is strange that the girls have not enterprise enough to go where they can earn a comfortable living. Thousands of amiable, intelligent and handsome girls are living in penury in the Atlantic cities, who, if here, would be provided with comfortable homes."

MORE IMPROVEMENT.—One of our exchanges has been greatly improved by striking out the quack advertisements. The example is worthy of extensive imitation. Some small country papers are about one-third filled with these disgusting lies.—*New York Organ.*

'Ems our sentiments 'xactly.

The Editor.

That editor who wills to please,
Must humbly crawl upon his knees,
And kiss the hand that beats him;
Or if he dare attempt to walk,
Must toe the mark that others chalk,
And cringe to all that meet him.

Says one, your subjects are too grave—
Too much morality you have—
Too much about religion;
Give me some witch or wizard tales,
With slip-shod ghosts, with fias and scales
Or feathers like a pigeon.

I love to read, another cries,
Those monstrous fashionable lies,
In other words, those novels;
Composed of kings and queens and lords,
Of border wars and gothic hordes,
That used to live in hovels.

No, no, cries one, we've had enough
Of such confounded love-sick stuff,
To e' ze the fair creation;
Give us some recent foreign news,
Of Russians, Turks—the Greeks and Jews,
Or any other nation.

The man of drilled scholastic lore,
Would like to see a little more
In scraps of Greek and Latin:
The merchants rather have the price
Of southern indigo and rice,
Of India silks and satin.

Another cries I want more fun,
A witty anecdote or pun,
A rebus or a riddle;
Some long for missionary news,
And some for worldly carnal views,
Would rather hear a fiddle.

The critic, too, of classic skill,
Must dip in gall his gander quill,
And scrawl against the paper;
Of all the literary fools
Bred in our colleges and schools,
He cuts the silliest caper.

Another cries, I want to see
A jumbled up variety—
Variety in all things;
A miscellaneous hodge-podge print,
Composed—I only give the hint,
Of multifarious small things.

I want some marriage news, says miss,
It constitutes my highest bliss
To hear of weddings plenty;
For in a time of general rain,
None suffer from a drought, 'tis plain—
At least not one in twenty.

I want to hear of deaths, says one—
Of people totally undone,
Of losses, fire, or fever;
Another answers, full as wise,
I'd rather have the fall and rise
Of raccoon skin and beaver.

Some signify a secret wish
For now and then a savory dish
Of politics to suit them;
But here we rest at perfect ease,
Should they swear the moon was cheese,
We never should dispute them.

Or grave or humorous, wild or tame,
Lofty or low, 'tis all the same;
Too haughty or too humble;
And every editorial wight,
Has naught to do but what is right,
And let the grumbler grumble.

Music.

All things are music. Every soul that swells
Along the earth is but a mingled note

In Nature's glorious anthem. O'er the fields,
And from the snowy tops of loftiest Alps,]
Thro' dark green woodlands, in perennial fields
And o'er old Ocean's waters, heaves and rolls
The eternal tide of song. How various, wild,
And magical its notes! Earth's first-born hymn
And holiest harmony! A melody

That, like the dews of Heaven, soft distills

Upon the weary, overburdened world, and gives

External freshness to its drooping flowers.

All things are music. I have felt the sigh
Of balmy zephyrs creeping to my heart,
And nestling there. In the deep night I've stood
And listened when the stars were bright and clear
I'm yon blue concave, to the bird of night,
That poured in native strains her tearful plaint,

Breathed for the ear of night alone, which seemed
To catch the charm upon its pinions wide,
And bear it to its home beyond the stars!

All things are music. And a soul it hath,
Twin-soul with man's, responsive in each chord,
It speaks his feelings, mourning in his woes,
And smiling in his joy. It fills his heart

With an exulting bliss, stirs up the blood,
Prompts him to battle, melts him into love,
And lifts his heart in thoughts desire to heaven!

Even as the rose-tint paints the lily pale,
Heightening his best emotions it is found.
In fountain-fall, in whispers in the wood,
In choral symphonies among the stars,

But most in woman's voice, melting and low,
Like the wind among the reeds, or like the gush

Of cool, clear waters from a spring it comes,

His weary spirit soothed into rest!

PERPETUAL MOTION.—A machine is on exhibition at Chicago, Ill., which purports to be the long-sought invention: and so cunningly deceptive is the machine arranged that the editor of the "Prairie Gem" is convinced that he can see the moving principle therein very clearly. The inventor's name is A. B. Vancott. The Dutchman is ahead of the Yankee, for once.

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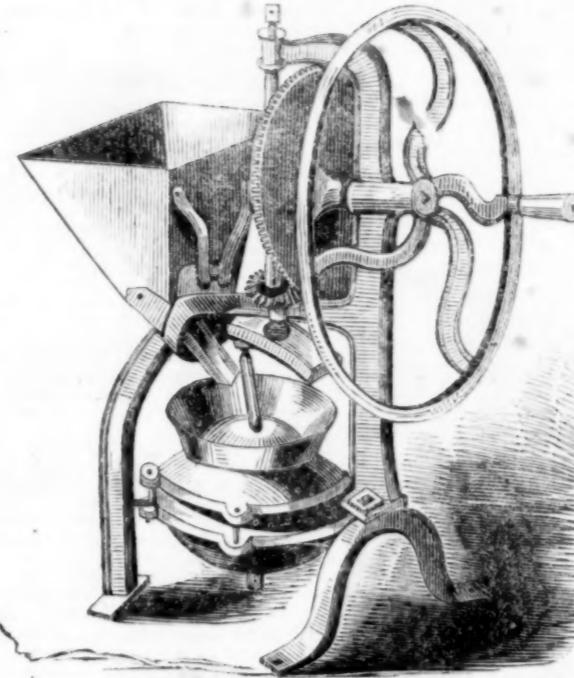
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OSTRANDER'S MILL.



This is called the "Patent, Oblique, Gyrating, Spherical Mill," for grinding all kinds of grain, coffee, spices, paints and drugs: and the Patentee assures us that it is not surpassed in either utility or economy. It can be easily turned by hand, or run by power at the usual speed, without heating or cohesion of the metals. It will grind the same quantity of materials, if not more, than any other mill; is not liable to get out of order, and is so constructed that it can be altered at pleasure to suit the grinding of various substances: and whenever any part becomes worn, it can be easily replaced at a trifling expense. Its motion is like that of a globe revolving on its own axis, or an angle of about sixty degrees, more or less, within another

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In going to your meals, do not hurry as if afraid of failing to secure the best chance; neither wait to be the last of all, as if afraid there would not be seats enough for all. At the table help yourself with freedom, and be attentive to help others to whatever may appear to be beyond their reach and which you may suppose would be acceptable to them. Do not be careful to leave a remnant of any article on the table, as if you thought there was no more of it in the house. Do not help another person to an article that stands directly before him, as if you thought he did not know enough to help himself.

Either eat or affect to eat as long as others do at the table, or leave the table and company: do not sit, waiting for others to finish their meal.

Do not talk much while eating: the tongue has then other employment, and cannot well perform two kinds of business at the same time.

Be forward to proceed to your

THE NEW YORK SCIENTIFIC AMERICAN.

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Black Eyes.

There's mischief in the bright black eye,
And danger lurking round,
And ye must shun its witchery,
Who have a heart to wound;
Ye may not stand unclothed and free,
The lightning of its glance;
Thou'dst meet the whole artillery
Of blue, with better chance.

SILVER IN LEAD.—A very considerable item of the mineral wealth of the West consists in the silver which is found to exist in lead. The mines of Dubuque and vicinity are understood to be particularly rich in this respect, some specimens furnishing as much as one hundred ounces of silver to the ton of lead, though it is estimated that five ounces to the ton will pay for the process of separating it.

The process of separation, as followed at the upper mines, we learn, is as follows. A number of cast iron vessels, capable of holding five or six tons lead each, are prepared. In these the metal is melted and suffered to cool slowly, being stirred constantly with an iron rod. As the liquid cools, a partial crystallization takes place; this contains a large proportion of silver, and falls to the bottom; it is removed by means of a perforated ladle, and subjected again to a similar process in other vessels, while the residue in the first set of vessels continues to be heated and stirred till it ceases to crystallize. Finally, the richest parts separated by this process are placed in what is called a cupel. This is a shallow vessel, made of bone ashes and very porous. The metal is subjected to a high degree of temperature, and then a stream of cold air from a bellows passes over it. Oxidation of the remaining portion of lead takes place, in the form of litharge, and the pure silver falls to the bottom. The litharge is valuable in commerce, and the lead which failed to crystallize by the first process, is run into pigs, and is just as useful for ordinary purposes as though the separation had not been made.

EXQUISITELY NICE.—The waiters at the Delavan House serve in white gloves. What next. NEWSPAPERS.—In New York, Philadelphia, and Boston, there are thirty-nine daily papers.

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OR ELECTRO MAGNETIC MACHINE.

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Mechanics' Merchants' and Farmers' Agency.

34 Ann street, New York.

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Persons well acquainted with the business, wants, and customs of the city and country will be connected with the Office. The utmost pains will be taken to obtain and furnish all required information, and to conduct the business on strictly correct principles.

This undertaking has received the approbation of our most benevolent and intelligent citizens, as well worthy the patronage of all classes of business men.

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S. FLEET.

THE TORPEDO ELECTRO-MAGNETIC MACHINE.

THE subscriber takes this opportunity of apprising the public that, at the last Fair held by the American Institute, he obtained the premium and medal for the best Electro-galvanic machine on exhibition. Since then he has made a new and very important discovery in these by which he can give out the pure magnetic fluid, or the primary current. Its efficacy is truly wonderful.

SAMUEL B. SMITH,

Inventor and manufacturer, 297 1-2 Broadway, left side going up.

430502*

STATE OF NEW YORK, SECRETARY'S OFFICE,

ALBANY, July 24, 1846.

TO the Sheriff of the City and County of New York: Sir.—Notice is hereby given, that at the next General Election, to be held on the Tuesday succeeding the first Monday of November next, the following officers are to be elected, to wit:—A Governor and Lieutenant Governor of this State. Two Canal Commissioners, to supply the places of Jonas Earl, junior, and Stephen Clark, whose terms of service will expire on the last day of December next. A Representative in the 30th Congress of the United States, for the Third Congressional District, consisting of the 1st, 2d, 3d, 4th and 5th Wards of the City of New York. Also, a Representative in the said Congress for the Fourth Congressional District, consisting of the 6th, 7th, 10th and 13th Wards of said City. Also a Representative in the said Congress for the Fifth Congressional District, consisting of the 8th, 9th and 14th Wards of said City. And also a Representative in the said Congress for the Sixth Congressional District, consisting of the 11th, 12th, 13th, 16th, 17th and 18th Wards of said City.

Also the following officers for the said County, to wit: 16 Members of Assembly, a Sheriff in the place of William Jones, whose term of service will expire on the last day of December next. A County Clerk in the place of John A. Lott, on the last day of December next. A Representative in the 30th Congress of the United States, for the Third Congressional District, consisting of the 1st, 2d, 3d, 4th and 5th Wards of the City of New York. Also, a Representative in the said Congress for the Fourth Congressional District, consisting of the 6th, 7th, 10th and 13th Wards of said City. Also a Representative in the said Congress for the Fifth Congressional District, consisting of the 8th, 9th and 14th Wards of said City. And also a Representative in the said Congress for the Sixth Congressional District, consisting of the 11th, 12th, 13th, 16th, 17th and 18th Wards of said City.

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